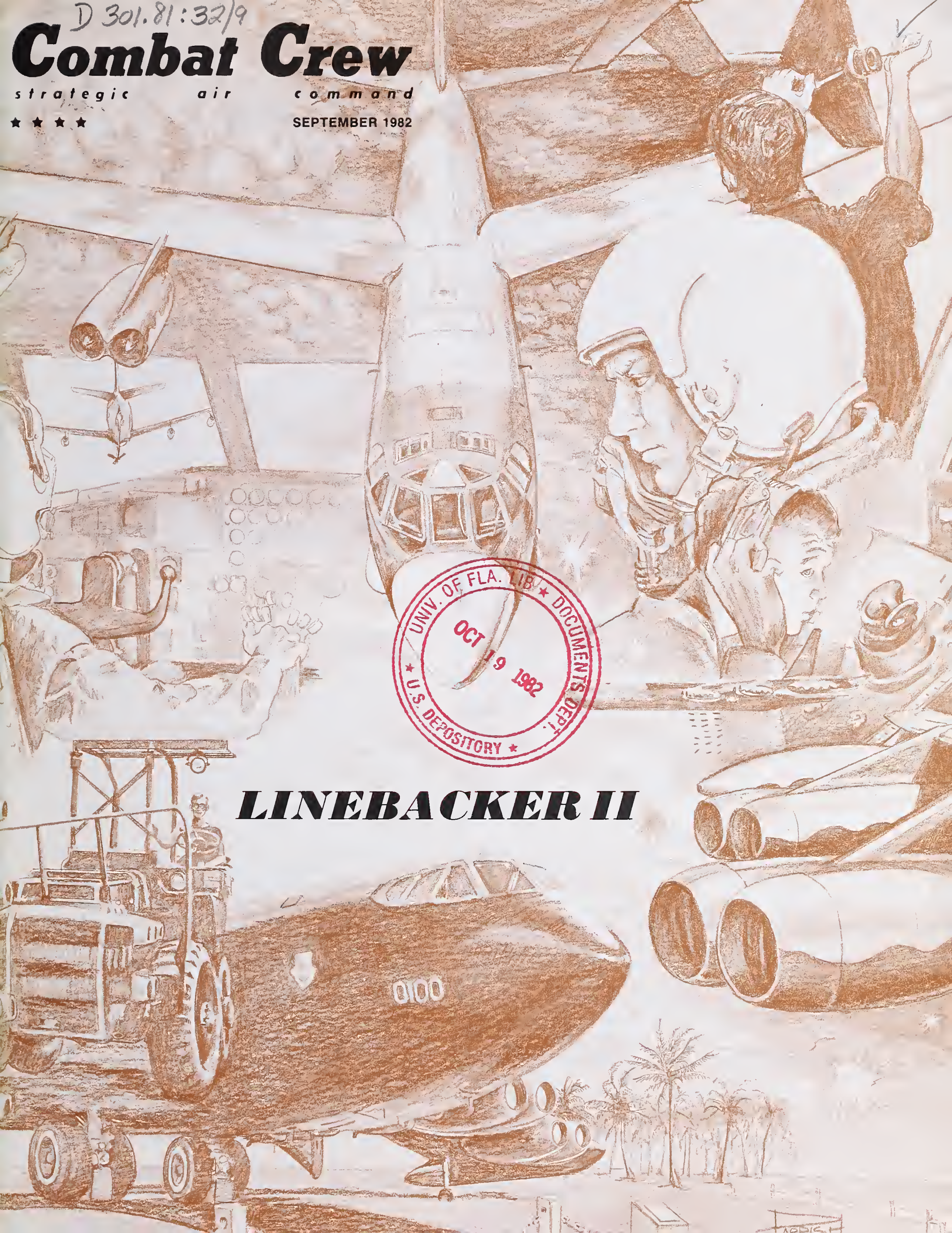
D 301.81:32/9

Combat Crew

strategic air command

★ ★ ★ ★

SEPTEMBER 1982



UNIV. OF FLA. LIB. ★ DOCUMENTS DEPT. ★ U.S. DEPOSITORY ★
OCT 19 1982

LINEBACKER II

LINEBACKER II

TEN YEARS IN RETROSPECT

This year SAC will observe the tenth anniversary of Linebacker II, the most concentrated application of airpower in the history of warfare. For the first time in contemporary conflicts, heavy jet bombers were employed in their designated role of extended strategic operations against the war-making capacity of a hostile nation. Conducted against one of the strongest air defense systems in the world, the 11-day air assault against North Vietnam in December 1972 reaffirmed that properly applied conventional bombing could be decisive. By forcing the Vietnamese communist leaders to sign the treaty and return the POWs, the United States concluded its involvement in the Vietnam conflict, obtaining the elusive "Peace with Honor." The subsequent fall of South Vietnam two years later does not in any manner detract from the determination and valor of the Linebacker II participants or the success of this military operation.

Honoring these participants, the Southeast Asia Veterans Association will sponsor a reunion to be held at Offutt AFB from 1 to 3 October, 1982. Attempting to obtain maximum attendance, the association chose early October for the celebration instead of late December to avoid the most severe part of winter. All of us at SAC Headquarters are looking forward to seeing old friends and commemorating those tense and demanding days of December 1972.

With the time for the reunion drawing near, I would like to take this opportunity to focus on Linebacker II and how those critical events led to the end of American involvement in Vietnam and reaffirmed our strategic bombing doctrine. For those crewmembers who did not participate in the operation, I will also review the lessons learned ten years ago, showing how they have affected our current capabilities and our planning for future conventional operations.

To fully understand the impact of the strategic bombing during Linebacker II, one must first realize the difference between this operation and previous air offensives.

Prior to Linebacker II, B-52s were used in a tactical role for such missions as area bombing, troop support and interdiction. For their troop support missions particularly, they earned the heartfelt praise of the Infantry and Marines. But though they were highly successful in a tactical role, this was not the most effective use of the bombers. The earlier attacks on North Vietnam by tactical aircraft were not designed specifically to destroy enemy war-making capabilities, but intended instead to communicate American strength and resolve. American

Lt General George D. Miller Vice Commander in Chief, SAC

command authorities attempted to use tactical aircraft for attacks against targets in North Vietnam to terrorize the communists, breaking their morale and forcing them to negotiate an end to the conflict. Although these tactical airstrikes did harrass the communists, the composition and timing of the attacks simply did not convey American determination to the North Vietnamese leaders. When the air attacks began to hurt, Hanoi managed to get them stopped by promising serious negotiations. What U. S. leaders thought they were communicating as restrained strength and resolve, the communists read as weakness and vacillation. After seven years of trying the nation's faith and patience, it was decided to employ strategic airpower as dictated by the principles of war.

The reasons for this delay in utilizing strategic bombardment to end the conflict are too varied and complex for this discussion, but one obvious problem area was the requirement to shift the venerable B-52 from its primary nuclear deterrent role to that of actually applying strategic bombardment doctrine with conventional weapons. As the Vietnam conflict was proving, weaker nations, protected by the stalemate of nuclear power between the U. S. and the USSR, could operate against United States' national interests without fear of

Combat Crew

Magazine of the Strategic Air Command 32nd Year of Publication

GEN. BENNIE L. DAVIS
COMMANDER IN CHIEF, SAC

BRIG. GEN JACK K. FARRIS
Inspector General

COL. RICHARD A. PATRICK
Director of Safety

STAFF

Editor
Capt. Randy Lauterbach

Associate Editor
Ken Maassen

Art Editor
Sgt Steve Parrish

Editorial Assistant
M. J. Abboud

IN THIS ISSUE

A Letter to an Old Friend 8
Flight Comfort 10
Hang in There, Titan 12
Bright Star 14
Never-Ending Cycle 17
KC-135 Go-Arounds 18
The Other Side of the Coin 20
Farewell Farrell 26

ON THE COVER

A tribute to the men and women of Linebacker II — 11 days that shook North Vietnam.

SACRP 127-1 VOL XXXII NO.9 SEPTEMBER 1982

COMBAT CREW is an internal publication of the Strategic Air Command with the sole purpose of promoting safety. The contents of this magazine are informative and not to be considered as directive in nature. Facts, testimony and conclusions of all mishaps printed herein may not be construed as incrimination under Article 31 of the Uniform Code of Military Justice. All names, dates and places used in conjunction with mishap stories are fictious. Written permission must be obtained from Headquarters, Strategic Air Command, before any material may be reprinted by other than U.S. Air Force organizations. Use of funds for printing this publication has been approved by Hq USAF. Distribution FX, controlled by IGFC. SAC units submit distribution requests through local PDO. Reader to copy ratio 9:1.

Subscriptions are available from: The Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Price: $22.00 per year domestic; $27.50 if mailed to a foreign country; or $2.75 domestic or $3.45 foreign single copy. Contributions are encouraged as well as comments and criticisms. Direct correspondence with the Editor is authorized. Address correspondence to Editor.

COMBAT CREW, Hq SACIGFC, Offutt AFB, Ne. 68113. Authority to publish this periodical automatically expires on 23 Oct 83, unless its continuance is authorized by the approving authority prior to that date.

DEPARTMENT OF THE AIR FORCE

nuclear attack. Clearly, the American faith in its nuclear arsenal was not preventing wars at lower levels of the spectrum of conflict. American leaders desperately needed a conventional force capable of destroying North Vietnam's ability to supply its army. However, the tradeoff between nuclear deterrence and conventional operations had to be considered. Each aircraft converted to conventional operations would in fact detract from this U. S. deterrent force. Therefore, this cost had to be carefully weighed and the international situation thoughtfully analyzed before such a momentous decision could be made. However, by 1972, the Vietnam conflict was becoming so critical to American policy that it had to be ended quickly.

Early in that year, President Nixon made the decision to shift a large portion of the B-52 force from its primary role of nuclear deterrence to that of a strategic conventional bomber force. Then, in December, he approved a total commitment of U. S. air resources in a strategic bombing compaign to totally destroy the North Vietnamese capacity to wage war. As wave after wave of B-52s struck targets around Hanoi, the message was clear — this was American commitment of its vital resources and prestige.

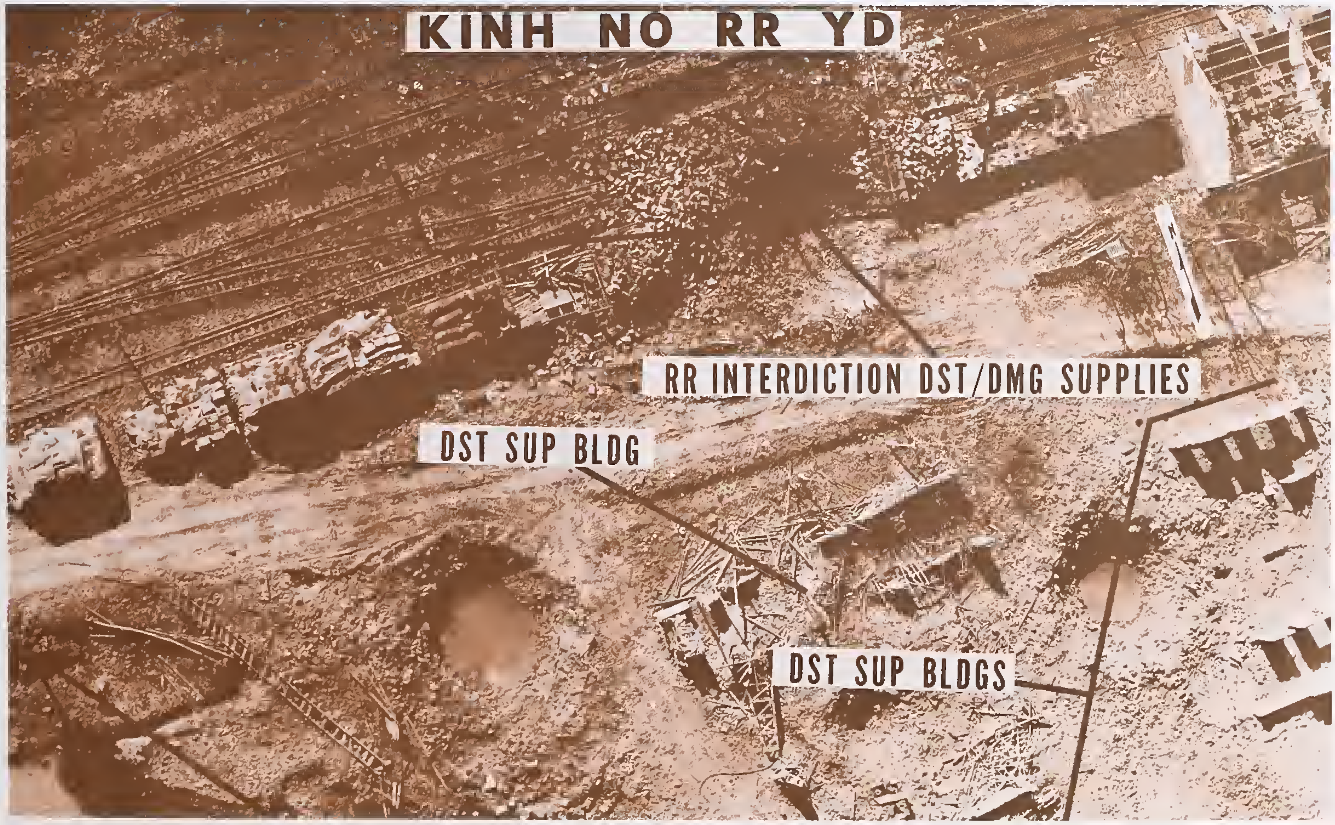
With American prestige on the line, the only question was whether the operation would be a success or a repeat of Schweinfurt. Hanoi believed that its excellent air defense system could shatter the American attack. The Hanoi area was defended by 30 SA-2 sites, with over 200 launchers. This missile was specifically designed to bring down the B-52. Added to this defensive system were 145 fighters, the bulk of them MIG-19s and MIG-21s, which were more than capable of challenging the bomber force. Also integrated into this system was antiaircraft artillery, some of which could be a threat to the bombers at their operational altitude.

The planners of Linebacker II were determined to overcome this formidable defense system by mounting an irresistible strike force. Originally planned as a three-day assault, it was later expanded into an 11-day campaign. Many targets that had been restricted from attack since the start of air operations in 1965 were to be hit for the first time. These included rail and shipyards, command and control centers, power plants, rail bridges, fighter bases and air defense sites. But most significantly they were to be attacked in a compressed time span. B-52s, with their tremendous conventional capacity, were to strike the larger target systems at night, while TAC and the Navy sent their fighter-bombers armed with laser-guided weapons during the day. Although designed as a coordinated effort to be delivered around the clock, the major portion of the strikes were by the B-52 force. Since only 12 hours during the daylight operations were usable for the laser weapons due to poor weather, the brunt of the attack fell to SAC.

Massive concentrations of men, materiel, and aircraft were the norm. Many SAC personnel visited U-Tapao "By the Sea."

This is not to say that TAC and the Navy were not busy. Tactical air and Navy aircraft provided a substantial support package to beat down Hanoi's defenses. EB-66s, EA-6Bs, and EA-3s were used as standoff electronic countermeasures jamming platforms orbiting south of the target area. F-111s and F-4s struck airfields and SAM sites, while other F-4s spread a chaff corridor to literally blanket the area. As an additional tasking, F-4s provided sweeps of the area prior to the arrival of the bomber force, and a close-in escort force. F-105s and A-7s, armed with antiradar missiles, suppressed the SAM sites. This massive strike force clearly demonstrated U. S. resolve.

Typical results of a B-52 strike during Linebacker II.



A typical scene on the ramp at Andersen AFB, Guam, during the 11-day assault against Hanoi-Haiphong.

Even with this support, initial B-52 losses were significant. Some believed that these losses were due to the entire B-52 force using common routing into and out of the target areas. Staff planners had considered multiple axis attacks but felt this restriction was necessary to maintain force timing which was so critical to coordinating with the support package. However, using data from the aircrew debriefings and flight tests, SAC decided to modify the bomber strike routes to allow more flexibility but certainly putting more pressure on the aircrews to make their strike times good. The new tactics used many different routes to the targets, allowing aircraft to strike simultaneously from various directions. This tactical change clearly demonstrated a flexibility of both staff and aircrews that is without equal. There is no other example in military operations in which the staff changed the entire tactical employment so quickly or in which the aircrews executed so flawlessly.

While we are discussing maximum efforts, we must not forget the supreme dedication of the maintenance personnel and load teams, who provided the best possible airframes to do the job. Many commanders complained that they could not get their people to rest, each shift staying on and helping the next to ready more airplanes.

The Unsung Heroes — Maintenance personnel worked feverishly around the clock to support the bombing operation.

Hanoi did its best to convince American leaders that the cost of the strategic bombing campaign would be too high. More than 1,200 SAMs were fired at our aircraft. However, because of the suppression of the communist air defense system, B-52s roamed at will over the skies of North Vietnam by the end of the Linebacker II operation. The enemy simply did not have anything left with which to challenge us.

The cost of losing control of their own airspace became painfully clear to the communists. B-52 and tactical air strikes inflicted damage too extensive to be quickly repaired, turning the entire communist transportation system into a shambles. Nothing moved into or out of North Vietnam.

Five major factors contributed significantly to Linebacker II's success. First, we were allowed to destroy Hanoi's excellent air defense system for the first time in the war. This mission became the first priority of the support and some of the B-52 strike forces. Second, SAC was permitted to use the B-52s, with their tremendous conventional capacity, to attack major target complexes. Third, the time compression and repetition of the attacks literally closed down the transportation system. Fourth, the flexibility of the aircrews and staff allowed a quick modification of the tactics, thereby decreasing losses and improving the American bombing effort. Of course, the fifth and most important change with Linebacker II was President Nixon's clear statement to Hanoi that the United States was determined to use the weapons at our disposal to bring the war to a conclusion.

Complete domination of the air over North Vietnam — the result of Linebacker II — demonstrated our resolve to employ massed forces, and brought the North Vietnamese back to the negotiating table in Paris. Eight days after the first meeting, a breakthrough had been made. On January 27, 1973, formal signing of the Peace Agreements took place.

The lessons learned from SAC's Linebacker II operations seem very clear to me. The command must ensure that it maintains its capability to conduct a conventional strategic bombing campaign if called upon to do so. That campaign could serve as a model to be used against any enemy of freedom and in any location. The unique characteristics of long range and tremendous striking power places SAC on a first call basis. Our primary mission has been and will remain nuclear deterrence, but we must be able to fight any war and in any place our country needs us. As aircrews you must continue to train hard for both nuclear and conventional operations.

As the Vice Commander of SAC, I will continue to ensure the command keeps pace with the challenges of rapidly changing technology. We will persist in the offensive avionics system, or the electro-optical viewing system alternate release panel, to ensure that you have to attack the target only once to complete its destruction. The command is also striving to acquire a standoff weapon capability, which will give us the flexibility to destroy targets without exposing aircraft to heavily defended locations.

U-Tapao Veterans Association Reunion

1 - 3 Oct 82
Offutt AFB
Contact: Col Bill Batson (ret),
1502 JFK Drive
Bellevue, NE 68005
Telephone: 402-291-7750
Maj Dennis Ryder
Telephone: 402-294-3298
AV 271-3298

Recently, new taskings have been added to SAC's conventional operations. The command has become an integral part of the Rapid Deployment Force, operating out of bare bases and training in a manner that no one could have predicted ten years ago. Current defense guidance has also tasked SAC to develop a capability to aid in the control of the United States' vital sea lines of communication. Once again, the B-52's quick reaction time and ability to carry large amounts of ordnance great distances has become a factor in determining our responsibilities.

SAC faces many challenges in conducting these conventional operations. The missions are varied and the potential enemies are many, each rapidly acquiring new and improved defenses. Because of these increasingly complex responsibilities SAC must be able to employ its resources properly and execute tactics flawlessly. One of the most interesting aspects of the Linebacker II operation was that an aircraft designed in 1949 could successfully penetrate a highly sophisticated air defense system at high altitude. This accomplishment was a tribute to the professionalism of the airmen who maintained the aircraft and flew in this historic battle. The success of every military operation depends on the determination and courage of the participants who make it happen. That dedicated breed of warrior was in abundance during Linebacker II operations, whether part of the ground crew that took only 15 minutes to perform a two and a half hour tire change or part of the aircrew that flew through "wall-to-wall SAMs" to strike a critical target. No matter how old the aircraft, people are still the most important factor in accomplishing the mission. I know the same warriors are still out there — manning the crew force, or making the airframes a little better, or on the staff planning new tactics. Many have become commanders of our finest units. You are the steel in the mailed fist. I hope to see all of you at our reunion in October. ★ ★ ★

A letter to an old friend...

Capt Art Lichte
HQ SAC/DPROR

Dear Karl,

How's things going with you? I figure right about now you're on alert again and getting ready for the ORI, or is it CEVG. In any event, I'm sure you enjoyed your summer and got plenty of sunshine out there on "Flightline Beach."

I was thinking quite a bit about the good old days on alert lately, and I thought I'd drop you a line that might give you a little clout in the next discussion session at the dining room table. You can lay a quote on them like, "I have a friend that works up in SAC Assignments and he says . . ." When the entire dining room comes to a complete halt, then you can say whatever you want to and it becomes policy.

I did want to settle part of the discussion we once had on assignments and the use of the Form 90. I remember at the time we both agreed that it doesn't help to fill out those forms, and as you go up the ladder it's even less important because then it's "who you know." Well, I've definitely seen it from the other side of the assignments desk now, and I thought I better let you know about it. Those Form 90s are pretty important, probably more than you would ever believe. The Form 90s are used daily by us personnel weenies, and they are also read by the people that hire you for specific jobs. Let me explain a little bit. First of all, the Form 90 is kept with your Command Record in addition to being stored in the computer. Anytime anyone pulls your command record, they will see your Form 90. As such, it becomes your personal touch to the record, just as your photo. It is the little bit extra that you can add to your record, or, in many cases, detract from it. For example, I read a Form 90 recently from an individual that wanted to go to the Pentagon. That was fine, but every time he mentioned "Pentagon" he misspelled it. It didn't impress the people that reviewed his record. Another example, and believe me, this is a direct quote, spelling and all, "I think by being marreed to another crewmember, I would be a great trianing program at

Mather AFB." I still haven't figured out what that person was saying, but I'll guarantee the only training being considered now is high school English.

Of course those examples are fortunately not in the majority, but there are other subtle ways people foul up a Form 90. As a matter of fact, it's some of our older crew dogs, the ones you can't teach new tricks, I guess. Take the people interested in becoming squadron commanders — four times a year a board convenes to select individuals for this key management position. How do you think the five wing commanders comprising the board and the general officer that is the president view a Form 90 where the individual says he only wants to be an Ops officer or doesn't have a Form 90 less than five years old? Believe me, it doesn't make a very favorable impression.

Now don't let me steer you wrong; just because you have a Form 90 that says you want to be a squadron commander, they will not schedule you for a change-of-command ceremony. They also can't send everyone to Hawaii that wants to go; but if you don't make your desires known, no one will take time to read your mind. The only advice I'd really give you is to take the time to consult AFP 36-6 before you fill out your Form 90 and keep it current. Even if you don't think it's important, someone just might be looking at it, and you can't afford not to have everything going for you. One thing I've learned is that many people have good records. You must try to make yours stand out if you want a specific job. As I said, it's just another thing that you can do for yourself in the assignment process.

Well, I don't want to keep you away from too many soap operas or game shows, or, of course, the dreaded economic lessons. Hope you're enjoying the other side of the alert facility. Use one of your days on alert to fill out a Form 90. I'm sure you won't regret it, but remember to give it time to work. Remember, if you change your mind, change your Form 90, too. I'd hate to send you to the Bahamas if you were no longer a volunteer. If you have any questions, just give me a call or better yet, write a letter; the Post Office needs the business.

Yours on the Aerospace Team,
ART.

C'MON, CREW DOGS WE GOTTA GIT US WON A THEM THAR FORM 90'S!
RALF
US AIR FO

FOR FLYING COMFORT

Rx

Maj John B. Linnstaedt
4017th CCTS, Castle AFB

What does it feel like to fly in a B-52, or any multi-engine aircraft, for a non-pilot crewmember? In a word, uncomfortable.

I have logged almost 2500 flying hours, but on my last flight I discovered an analogy which gives a good description of this discomfort. Unable to see outside the aircraft while flying as a non-pilot produces symptoms that rival those of the common cold and would make a pill producer's eyes light with challenge.

I wonder how a medical doctor who was unfamiliar with flight medicine would diagnose the symptoms which develop over the typical 6 to 10 hour sortie: hot and cold flashes, overall aching, nausea, problems focusing the eyes in dim lights, fullness of ears and sinuses, and fatigue. A crewmember must learn to live with these symptoms which are a factor of the environment, not of virus or bacteria. The environment which produces these problems and a few suggested remedies are the focus of this article.

My last flight provided a good example of hot and cold flashes. Takeoff was scheduled for a spring day late in the morning. By the time we arrived at the aircraft the temperature had already climbed to about 80°F which felt like 100°F in the crew compartment, as all temperature extremes are exaggerated in the cockpit. Even with the crew hatch and pilots' side windows open no draft reached the defensive stations and everyone was bathed in perspiration which prompted the gunner's comparison, "There's no need to waste money on a sauna while you're on flying status!" After everyone felt drained from sweating we finally got ground cooling air in the aircraft and had the pilots open the air conditioning ducts, which provided some relief. During a winter flight it's the other extreme. Everyone bundles up and still the back of the cockpit feels like an Arctic winter. Since copilots control the temperature, they are frequently accused of living in a greenhouse because it gets so cold at stations where the light of day never shines. Worse than the heat in summer and the cold in winter are the wide fluctuations of temperature during the flight. Judging from the conversation continually in progress during most flights about how hot and then how cold everyone is, a very small change in the regulator may cause a vast change in temperature. In order to avoid environmental discomfort, adjust the air outlet knobs to produce the desired effect, and as a last resort, join the chorus in complaining about the copilot's temperature setting.

Then there's that ache all over feeling which develops from sitting strapped into one position for a long period of time. This feeling is heightened by supporting the weight of a 40 lb parachute and wearing a helmet with oxygen mask attached. A benefit is that this gear probably develops fliers' neck and back muscles because it causes soreness so frequently. If the helmet isn't fitted just right then you get a sensation known as "hot spots", which feels like someone is burning a hole into your head. Comfort is best obtained by wearing the helmet and parachute only when necessary and by ensuring your equipment is fitted properly.

Motion sickness or nausea may be the worst symptom of all, and unfortunately, it occurs most frequently during the period most critical to rating job proficiency of RN's and EW's; that is, during the scoring of bombing and ECM effectiveness which usually occurs after flying for about an hour in low level routes where flying weather is at its worst. In winter months, the numerous storms moving through the CONUS and across the low level routes can create a bone jarring experience. The first time a crewmember encounters light turbulence it creates a wholly new perception of the word "light." But summer can be worse! The two times I lost control of motion sickness on B-52 flights were a result of flying through a route in Arizona during summer when thermals rising from the desert mountains really kept the aircraft vibrating and bouncing. During the bomb run the pilot tries to keep the Flight Command Indicator (FCI) centered for the RN and this can result in some violent maneuvers during this critical period, when everyone is trying to concentrate on their equipment. The equipment that must be worked with often vibrates violently at a frequency which is completely out of synchronization with the mind and body. Pilots, who have good visual references, rarely become sick. Motion sickness sensations are generally the result of the head being rotated in one or more axes, but susceptibility is increased by fear and anxiety, and also by fatigue, disease, improper eating, and drinking alcohol. The steps you can take to combat motion sickness are discussed during the physiological training which crewmembers receive every three years, but these steps are not generally associated by the instructor with motion sickness. The following steps can prevent or minimize the discomfort of motion sickness:

Place the head back into the headrest. Minimizing head movements will reduce the unnatural rotations of the inner ear, where balance-sensing mechanisms are located. Other tactics that may prove useful include focusing on an item before turning the head, and then turning the head slowly. Rapid movements of bending to pick up a pencil, straightening up and then turning the head to operate equipment are almost certain to produce vertigo, if not nausea.

Keep cool. Fresh, cool air helps deter airsickness, so get the air conditioning vents pointed at your face if you feel warm.

Don't smoke. I can't understand why smoking was ever permitted on military flights. As a nonsmoker I have often felt myself turning green when the gunner puffed on a big stogie. The only way to find relief if you don't like being rude to smokers, is to go on 100% oxygen.

Eat sensibly. The effect of what you eat seems to cause the most controversy. Everyone seems to have their own opinion whether to eat a lot or a little, or whether it even matters. Probably the best strategy is to keep some food in the stomach by having a good balanced meal prior to the flight, avoiding alcohol, quinine (tonic water), or drugs and then eating periodically during the flight, avoiding spicy foods, coffee or tea. Drugs may produce three effects: the intended effect, an individual effect, and a side effect. The last two of these are unpredictable and may be adverse. The best diet is a very individual matter. Eating absorbent foods such as bread, crackers, or popcorn prior to a low level route seems to help some people. Drinking fluids prior to turbulence aggravates motion sickness for me, but most people drink lots of liquid to prevent dehydration.

Rest adequately. Motion sickness is exaggerated by fatigue. Therefore, get plenty of rest before embarking on a flight. A relaxed, comfortable body position with the body slouched in the seat and head firmly on a rest can be used to combat motion sickness symptoms.

Take medication if directed. It is easier to prevent motion sickness prior to the symptoms with medication such as Dramamine than to treat it once the discomfort has started. However, it is reported that non-prescription preparations called Meclazine or Benine can be taken at the onset of nausea, rather than prior, and were used by the Apollo astronauts. Remember: see your flight surgeon first.

Try to relax. Susceptibility to motion sickness is increased by fear and anxiety. The key to flying success for people who initially suffer from motion sickness is to stay preoccupied with work, rather than thinking about symptoms. A motivated individual will probably be able to determine his individual causes, adapt, and overcome motion sickness.

Protect your hearing. The combined noise from aircraft engines, air conditioning, radios and interphone can create stress which contributes to airsickness. The secret is to keep interphone volume set at a comfortable level and ensure headphones fit snugly to block external noise.

Another symptom crewmembers must deal with is preventing ear blocks. One must valsalva as necessary to keep your ears at the same pressure as the surrounding atmosphere. Flight surgeons sometimes recommend carrying a decongestant nasal spray in case congestion prevents clearing of the ears and sinuses.

In summary, the key to comfortable flight is to stay as relaxed as possible by adapting to this challenging environment and knowing how to make the most of all the equipment available. One must prepare for situations which cause discomfort and stay as relaxed as possible. If you're successful, perhaps you will never draw a comparison between flying and illness as I did.

HANG IN THERE
TITAN

Capt Bradley A. Maasjo
3901st SMES, Vandenberg

A topic that is currently on the minds of everyone associated with the Titan II weapon system is deactivation. Is it really going to happen? How is it going to happen? When is it going to happen? These and many other questions are waiting for answers, some of which may be available sooner than others. While we all ponder and wait, however, there are some other subjects that we should carefully consider. An article in the summer 1982 issue of the USAF Nuclear Surety Journal highlights one that is so important that it bears repeating. Here, with thanks to the author, Lt Col Philip Middleton, is the text of that article, ***The Dying System Syndrome:***

"The recent Presidential announcement concerning the strategic modernization program has sent many of us back to the drawing board. Needless to say, there will be some major adjustments in the life span of some Air Force systems. Some will accelerate; some will decelerate; and others will come to a halt. The Titan II system will apparently fall in the last category.

"The men and women who operate and maintain Titan II will then face one of the toughest challenges of their career — remaining vigilant right down to the last gasp. It is unfortunate but true that a decision to terminate a weapon system generates an attitude of "who cares — the system's dying." We can all recognize the dangers in this type of thinking and the need to immediately engage the battle to control such attitudes. Commanders and supervisors must lead the way.

"The Titan II represents a significant fraction of our present deterrent force, and this will continue until the last sortie is removed from alert. Until that day arrives, however, the system must be operated and maintained as it has always been — by the book. Safety must be exercised with experience and skill, and technical orders must be followed to the letter. Supervisors must see to the training and management of their people as carefully as ever before. Commanders, above all, must be alert for the first signs of "the dying system" syndrome.

"Titan II's long record proves that the system can be safely operated. However, recent events show that this system does not forgive lapses in judgment or inattention to detail. We in the nuclear surety community intend to give Titan II all the attention it deserves. We challenge every other individual involved with this system to see it through to the bitter end. Remember, nuclear surety is just as critical one minute before a missile or aircraft system is phased out as when the system was first placed on alert."

The first paragraph of the above article states that as a result of the strategic modernization program, the Titan II will "apparently" be deactivated. We can rest assured that the system will eventually be retired. A USAF management plan covering the overall deactivation of the Titan system has been developed and a SAC programming plan, which details the procedures scheduled to begin 1 October at Davis-Monthan AFB, is also complete. However, there is little information available yet on the exact methods and milestones. This is due in part to the logistics of the deactivation itself, and also to numerous strategic, economic, and political factors that are not privy to those of us below the decision-making level. Current activities center around preparing and validating deactivation tech data and developing plans to manage the logistical problems associated with the deactivation.

While the deactivation plans are being formulated and finalized, many other programs that required a long lead time or could not be completed by the time deactivation began have been "shelved" or terminated. Examples are the launch control set modification and the acquisition of new missile procedures trainers. It should be emphasized, however, that all safety related programs and modifications are progressing full speed ahead. A fire water recirculation system has been developed and will be installed during all major propellant operations. This system "recycles" water used in attempts to control fuel leaks and fires, and will significantly extend the amount of time sprays can be utilized. A portable foamer will also be available to assist in containing propellant spills, and a "scrubber" is being considered to assist in cleaning up such situations. Vapor detection equipment is being moved into the launch control center and sampling ports are being installed to enhance the crew's ability to monitor propellant vapors. New emergency breathing equipment has been obtained and installation of a portable radio system that will provide clear communications with any area of the launch complex during any situation, routine or emergency, is nearly complete.

Some of the examples listed above have been in the works for a long time and some of them resulted from the recommendations of the investigation boards convened after the McConnell and Little Rock accidents. Regardless of their origin, the message is clear. While preparations are being made to deactivate Titan, nothing related to the safe and correct operation of the weapon system is "on the shelf." Until the system is completely shut down, all efforts to maintain it safely are being expended. Our safe and correct operation of the system must parallel these efforts. The article quoted above contains sage advice which should be heeded through the last moment that a Titan II missile is on alert.

THE CUTTING EDGE

B-52 operations in . . .

BRIGHT STAR

Major David A. Dick
319th BMW, Grand Forks

On the morning of 23 November 1981, eight bombers of SAC's Strategic Projection Force took off on what was to be the longest nonstop B-52 bombing mission in the history of SAC. The two flights of bombers, four from the 319th BMW, Grand Forks AFB and four from the 5th BMW, Minot AFB, took off in deteriorating weather for the sole purpose of delivering their loads of conventional munitions on a target 7500 miles away. In addition, the first bomber across the target would signal the beginning of the final exercise of the Rapid Deployment Joint Task Force Exercise Bright Star 82.

Timing was extremely critical. Even after the exhaustive preparation for this mission including a full scale "dress rehearsal" of nearly identical conditions on the White Sands missile range, each flier felt apprehensive about what lay ahead.

The Flight

The cell of B-52H's from Minot took off ten minutes prior to the Grand Forks cell, and 15-minute spacing was maintained between the cells until over Egyptian territory. After takeoff, the lead Grand Forks aircraft with the airborne commander aboard experienced an inflight emergency and returned to base. The spare was launched, but due to adverse winds could not join up with the Grand Forks cell so it joined up with the second cell of the strike force from Minot. Enroute, high altitude winds were directly opposite from those planned, and mission timing was becoming so critical that all aircraft had to proceed at near maximum speed.

Enroute to the target, the crews accomplished three heavyweight air refuelings with Grand Forks, Minot, and other tanker units. Each of the first three tanker rendezvous and refuelings presented their own set of unusual circumstances. Moderate turbulence marked the first refueling, and each pilot fought to hang onto the boom a few minutes at a time, wishing for calmer air and faster pumps to speed the fuel transfer. The second refueling was in smoother air, but was conducted this time in cirrus "soup" so thick that visibility in the clouds was reduced to less than one mile. The radar navigators had their work cut out for them on this rendezvous. They had to sort out their own tanker from the three on the scope and then convince the pilot that they had indeed identified the correct return, and to "increase airspeed another 10 knots," an uncomfortable maneuver with seven other aircraft in close proximity.

Because of the increased fuel consumption due to

About the Author.

Major Dick graduated from the USAF Academy in 1965, majoring in mathematics. He began his flying career at Carswell AFB as a navigator in the B-52F and D. He also served as a Stan/Eval navigator for two years. He obtained an MS from the AF Institute of Technology in 1973 in aeronautical engineering. After a tour of duty in AC-130 gunships in Thailand, he worked for five years in the AF Flight Dynamics Laboratory, Wright-Patterson AFB, where he served as Group Leader of the Engineering Simulation Group.

Major Dick was assigned to the 319thBMW, where he advanced to the senior crew of the Stan/Eval Division. He was involved in the flight test program for the BUSY BULLSEYE modification and also participated in several of the weapons certification flight tests of the MK-82SE and MK-117R munitions. He was named to a select crew supporting the role of the Strategic Projection Force and was the radar navigator on the lead B-52 aircraft participating in the Bright Star 82 Exercise.

the higher airspeeds needed for timing, aircraft onloaded all the fuel the tankers could safely offload. The mission was almost aborted during the third air refueling. The cell was unable to begin air refueling until well past the planned point because of thunderstorms in the area. As luck would have it, the tanker cell approached the RZ point from the south, the bombers from the east. Straddling the RZ point and extending 100 miles downstream was a line of thunderstorms. We picked our way eastward, north of track, the tankers were doing the same, south of track. We finally joined near the end air refueling point and successfully completed our refueling. This was our final refueling before entering the Mediterranean and approaching the target area.

The adverse winds continued and so did the excessive fuel consumption. The cell leaders coordinated an extra refueling for the return portion of the flight. Timing was still critical and the navigators kept a constant watch on it. Since the route was practically a straight line eastward, there was no opportunity to cut corners and no more margin for increasing airspeed. We weren't breathing easily yet.

Another source of some apprehension was the possible intrusion by not so friendly Libyan fighters. It had been less than a month since our Navy had skirmished with two Libyan jets, so it appeared that they might like to at least disrupt our two neat formations. The news value alone of such an interruption to our media event would have been of great value to them. Crossing well north of their coastline, we experienced no interference. However, at this point in the mission, we could not afford to lose more than five minutes to thunderstorm avoidance or unfriendly fighters. Fortunately, we were in constant contact with our EC-135 which provided tremendous service as communications coordinator.

Approaching Egyptian airspace, we fine-tuned our timing through a small timing triangle. After this was accomplished, the first cell flew another triangular route so as to close the formation to a single stream of six bombers, so by the time we crossed into Egyptian territory at El Daba VOR, our aircraft were in position and as close to on time as possible, with 0 to 30 seconds our standard. We did not want to close closer than 90 seconds for this peacetime exercise due to the "hang time" of the fragments of the preceding bomber's weapons.

The bombers descended to fly low altitude through the desert and were met by a host of friendly Egyptian fighters for joint training in the low route. Egyptian ground defense units were added to provide one of the most realistic threat training environments ever encountered. Navigating for an hour over a desolate segment of the Egyptian desert, we relied on basic navigation skills and good radar scope interpretation backed up by dead reckoning. The limited radar and visual information available served to sharpen our skills, and even after 15 hours in the air, no one complained.

We used our short range attack missile (SRAM) carrier aircraft equipment, including its inertial measurement unit, as a backup. Also strapped to four of the six aircraft was a Carousel IV E palletized inertial navigation system which was added for this mission. Although it was not a necessary piece of gear, and it took up valuable space in the compartment, it did prove to ease the crew workload during the long haul home.

Tired crews receive a hearty welcome (and liquid refreshment) after 31 hours of grueling flight.

Having successfully navigated the low route, we easily identified the target area from about 12 miles or two minutes prior to the target and configured for the release. The target was a simulated runway, constructed by driving oil trucks over a 6400-foot length of desert and 75 feet wide. Visually, the contrast made the runway easily identifiable. Three radar corner reflectors provided a terrific final aiming point to effect a pinpoint release. Since the reflectors provide a radar return within at most a 30° fan, three reflectors were positioned in an overlapping pattern to provide at least 70° coverage.

The bombers released all weapons on time and on target using radar synchronous bombing methods backed up with a visually aided release. The navigation was excellent, after flying over 7500 miles in 15 hours, the first bomber crossed 600 feet over the target within four seconds of the scheduled fire power demonstration commencing Operation Bright Star 82.

The target runway on Wadi El Natrun range, 70 miles northwest of Cairo, was totally destroyed and was witnessed from a reviewing stand only 5500 feet northeast of the target by VIPs from numerous countries, including those of the Eastern European bloc, Soviets, Arab countries, Communist China and Africa. The objective of exacting precision bombing was emphatically achieved.

Now the crews faced a demanding return flight home. Weather over the Atlantic had improved some, but the extreme operating time on aircraft equipment and aircrews began to take its toll. Each crew was augmented with an extra radar navigator and pilot. With three navigators to occupy two seats, it was a simple matter to arrange a work schedule of eight hours on duty and four hours out of the seat. This plan worked well, with the prime crew in their normal seats for the critical low level phase of the flight. We found that the four hours "off duty" provided adequate rest to take a three hour nap to "recharge our batteries" plus another hour to eat or help the working crew by serving coffee or heating food in the oven.

On the subject of food, each of us ordered enough food, and brought more from home, to sustain us in the air for at least a week. In other words, we brought too much food, cramming our already cramped quarters with unnecessary baggage.

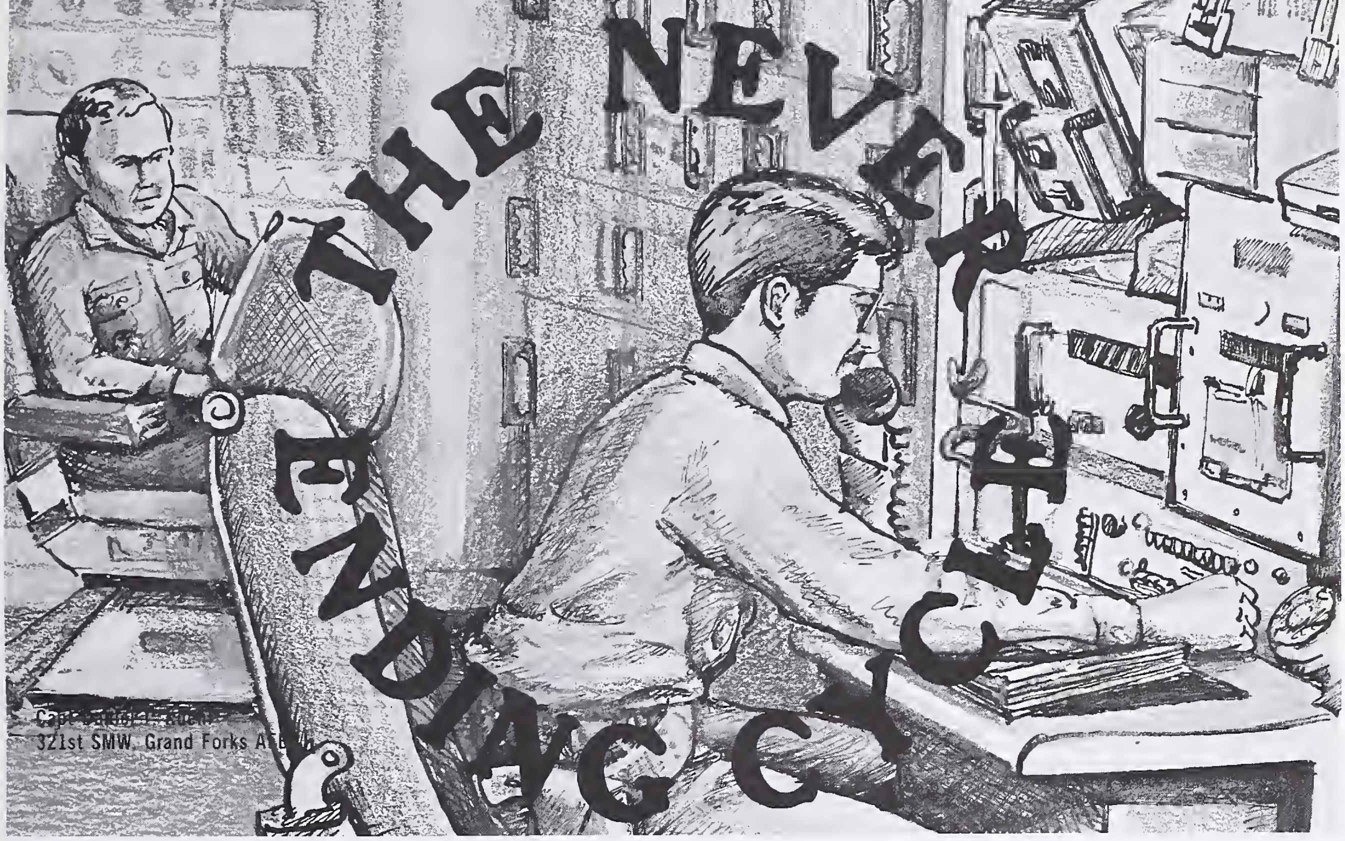
Teamwork and professional skill overcame minor difficulties on the return as the crews made good rendezvous and refueling on both the extra refueling as well as the two preplanned. Finally, the crews had to land in rapidly deteriorating weather on runways covered with patches of ice and blowing snow. Although fatigued after the 31-hour, 15,000 mile flight, crews arrived and recovered as scheduled. Entering Minneapolis Center, the first controller gave us a hearty "welcome home, buddies," and this was echoed as we traversed each sector all the way to Grand Forks. This single initial indication of friendliness woke everybody up and made the final leg of our long trip even more memorable — we were back home after a day and a half in the air and a sortie to the other side of the world and back.

Strategic Projection Force Development

The 319th and 5th Bombardment Wings were involved with the Strategic Projection Force from the beginning. The SPF, as it is referred to, offered development challenges ranging from tactics design to weapon certification. The overall objective was to provide the United States a capability for the rapid employment of strategic air power. That objective was soundly demonstrated in Exercise Bright Star 82 with SPF forces vividly demonstrating the capability to strike rapidly in any part of the world.

The crews, staff, and all who supported this mission were justifiably proud of Exercise Bright Star 82. Whereas we may have been holding our breath, hoping that our rather old aircraft would perform as advertised, we need not have feared. Without a doubt our mission was 100 percent successful. I think this mission probably was the most memorable accomplishment of our flying careers. The accomplishments of the SAC crews, maintenance, and support personnel clearly demonstrate SAC's resolve to defend U. S. national interests in any part of the world.

THE NEVER ENDING CYCLE



Capt [illegible]
321st SMW, Grand Forks AFB

MCCC: "My OPR tile is out, and the whole squadron has completed all preparatory commands."

DMCCC: "The birds are reporting back enabled and they're aligning to their targets."

MCCC: "Coming up on commit time. Hands on keys: three, two, one, keyturn!"

And so, amid ringing alarm bells, flashing lights and all your comm systems passing you **the message,** you execute the mission for which you have been trained. We hope this is just a practice scenario, but the mission of the SAC alert force is to be instantly ready to respond when and if directed by our national command authorities. We maintain this instant readiness through training on the equipment we use, the procedures we follow and through evaluation of our personnel.

Any SAC crewmember, past or present, will tell you this constant evaluation is the aspect of duty in SAC that is the most wearing on body and soul, and it wears on us all from CINCSAC to the most junior crewmember. "It never stops," one crewmember said, and he was absolutely correct. Whether it is a major unit inspection such as the SAC IG or 3901st SMES, or a personal evaluation such as an EWO test or local standboard in the MPT, we never stop evaluating ourselves, our procedures and our proficiency. As difficult as this is personally, however, it is absolutely necessary. If you stop for a moment and reflect on what our mission is, and why we have alert forces, I think you'll agree.

The SAC alert force has the mission of being instantly ready to respond. We won't have weeks and months in which to mobilize, and we may not have time to generate additional forces; if the SAC alert force needs to go to war, we will have at most scant minutes in which to carry out our orders. We won't have any time in which to practice our procedures one last time; we've got to do it right the first time. That's why we never stop training and evaluating ourselves. We practice our procedures now because we won't have the time to if we get **the message.** We evaluate our procedures and proficiency now so we can determine what areas need to be improved and reinforced.

The never-ending cycle of train-evaluate-train again is the price we must pay to maintain our readiness. Yes, it is tiring both physically and mentally, but there is simply no other way in which to do it. Every team tries to "peak" at just the right time, but SAC has been "peaked" for nearly 30 years, and we need to stay "peaked" until we no longer require alert forces. As long as SAC is in the business of maintaining alert forces, we'll continue to live and work this way; the overriding criticality of our mission demands it.

One last thought. It probably took you only a minute to read this, but that is about all the time we'll have in which to take our commit actions if **the message** is ever sent. If it ***seemed*** like a very short time, it **was;** that's why we can never let up on ourselves!

KC-135 GO-AROUNDS: PITCH AND POWER PRIORITIES

"The most important consideration in a go-around is to establish an immediate climb."
True or False?

CFIC CORNER

Capt Ron Sams
CFIC, Castle AFB

If you answered "True," this article may change your ideas regarding pitch and power management during a missed approach/go-around situation.

A go-around is a difficult maneuver to fly properly, and safely. The pilot must successfully coordinate pitch, power, trim, configuration and drag changes when the airplane is fairly close to the ground. From a 200-foot decision height (DH), there is a strong tendency to yank the nose up when you look out and the windows seem opaque.

Instead of briskly pulling back on the yoke, you actually should be pushing *forward* if your missed approach procedures are correct. If you don't believe that, let's take a minute to dissect the maneuver and expose some typical pitfalls.

A go-around from DH is not a panic maneuver. One of the major misconceptions some pilots have is thinking they must immediately stop the descent or they will crash. Decision height is just that, the point where the pilot decides to land or leave. As the missed approach is accomplished, a slight descent below DH is normal. You can't be expected to instantly change from a three-degree glidepath to a climb. There is too much inertia to overcome and rapidly increasing the pitch attitude will put the aircraft behind the power curve.

Be very judicious with pitch changes when the aircraft is in a low airspeed/high drag configuration. With the flaps at 50°, and the airplane stabilized at .6 AOA, abruptly yanking the nose up to seven or eight degrees of pitch will cause a rapid **decrease** in airspeed due to a large increase in angle-of-attack and induced drag. Unless the aircraft's thrust-to-weight ratio is greater than 1-to-1 (a condition -135 pilots can only dream about), the acceleration will be extremely slow to nonexistent. If the pitch attitude continues to increase, the pilot may find drag increasing faster than thrust available.

Many pilots who understand the dangers involved with rapid pitch changes still allow the pitch attitude to increase excessively during a missed approach. This is a very easy trap to fall into if you forget what happens as the throttles are advanced.

In aircraft with pod-mounted jet engines, the airplane does not simply accelerate in the direction it was originally moving as power is added. The -135 (and B-52), have a very strong pitch up tendency when the throttles are advanced, and vice versa. This is commonly called the pendulum effect. To compensate for this, the pilot must actually apply ***forward pressure*** on the yoke as power is advancd. This is an aerodynamic fact of life, and the pilot who ignores it will find the airplane's pitch attitude rapidly getting out of hand.

When you were taught to fly with an engine out, you may have learned that throttle and rudder were connected. In other words, the more power you added, the more rudder was required, and vice versa. A similar relationship exists for missed approaches, just think that throttle and yoke are connected. When the power goes forward the yoke must go forward, otherwise the pitch attitude may get away from you.

When power is applied to go-around, the increasing thrust initially does most of the work for you. Increasing power helps to arrest the descent and pitches the nose up. Don't be too concerned with using the yoke to increase the pitch, that's going to happen automatically as power is advanced. You should be more concerned with keeping forward pressure on the yoke.

Let's review KC-135 go-around procedures, and discuss how pitch, power, and drag configuration should be managed.

Assume a 160,000 pound KC-135 is flying final approach established on glidepath with the trim and power properly set. The 50° flap setting requires approximately five units nose up trim, and the fuel flow is approximately 3500 pounds/hour per engine (J-57). At DH the pilot decides to go around and "pickles" the RGA switch. The RGA computer causes the ADI command bars to jump to an absolute seven degrees. To maintain the three-degree glidepath, the pilot was holding about two degrees nose low, or just at the bottom edge of the ADI "donut." Therefore, the RGA computer commands a nine degree pitch change. From our previous discussion of rapid pitch changes, imagine the angle of attack and induced drag change when the pilot slams the pitch attitude up to seven degrees in an abrupt attempt to stop the descent. Since the power is still at 3500 pounds/hour per engine, there is not enough thrust to compensate for the increased drag. Do not abruptly follow the command bars, lead the go-around with power.

The dash one states that power should be advanced as ***required.*** You do not have to set go-around EPR for every missed approach. As the power is advanced, the nose will automatically pitch up as thrust increases. Apply forward pressure on the yoke to stop the pitch increase when it reaches approximately six degrees on the ADI. Freeze the pitch attitude there. By allowing the power to pitch up the nose, and then freezing the pitch, you are insuring there is enough power available to handle the increase in drag.

You must check to see the speed brakes are down. That doesn't mean you must physically grab the speed brake handle, or announce "speed brakes down" to the crew. Just momentarily glance down to check the lever position.

Next, the dash one directs that the flaps must be raised to 30°. Do not wait for a positive rate of climb to retract the flaps. Call for flaps 30 immediately. Raising the flaps from 50° to 30° will increase the rate of climb approximately 750 fpm. In the -135, the flaps have more drag than the gear, so don't delay flap retraction. Two units of nose down trim will be required as the flaps change position. This is about three to four seconds of trimming. Insufficient trim will cause the nose to pitch up, and we know the problems that can cause.

When a positive rate of climb is established (VVI above zero), raise the gear. This will further increase climb capability by approximately 300 fpm.

In reality, the go-around is not a step-by-step process. Many things happen at once. Simultaneously with the activation of the RGA switch you should be adding power and call for flaps 30. As the power increases, keep applying forward pressure on the yoke while trimming nose down. Call for "gear up" as soon as a positive rate of climb is established.

Fuel flow will increase from 3500 pounds/hour per engine to approximately 8000 pounds at go-around EPR. That's way too much power once the flaps are 30° and the gear is up, so don't leave the power in. A successful technique is to check the airspeed as soon as the gear is up. If you power/pitch techniques are correct, the airspeed will be at or very close to 30-flap pattern speed. Reduce the power to approximately 6000 pounds/hour per engine (for 160,000 pound aircraft), and maintain six degrees of pitch on the ADI. Call for flaps 30 and reduce the power 500 pounds more per engine.

Do not wait until flaps 20 pattern speed to call for flaps 20. The dash one states that the flaps may be retracted above 30° using the flap retraction schedule provided the altitude is at least 200 feet above the runway. If you check the flap retraction speeds in the performance manual, you will see that the 30 to 20 flap retraction speed is approximately threshold speed. (Fig. 1)

In conclusion, the go-around/missed approach is a smooth, controlled maneuver. The pilot is not required to perform heroic measures to begin a max performance climb. Whether your missed approach is planned or a surprise, don't panic. Remember, it takes time for your engines to spool up, and the last thing you need is excess drag from too much pitch. This is especially critical in engine-out situations. Smooth power management and forward pressure on the yoke are key elements of a safe missed approach. A thorough understanding of pitch and power priorities may prevent you from running out of airspeed and thrust when close to the ground. Don't be in a big hurry to begin an immediate climb. Use the techniques we've discussed, and all your missed approaches will be successful and safe.

160,000 pound Pattern Speeds

160,000 pound Pattern Speeds

Threshold/Reference = 136 KIAS
20° Pattern = 166
30° Pattern = 156
40° Pattern = 146
50° Pattern = 141
*138 KIAS = 30 to 20 Flap Retract Speed
(See T.O. 1C-135(K)A-1 Fig 1A9-26)

Fig. 1

BIG I . . .
THE OTHER SIDE OF THE

Capt Rhett T. Cooper
1CEVG
Barksdale AFB

About the time our imagination allows us to think we've mastered this thing called "instrument flight," particularly those important regulations and directives, someone finds one more book that's *need to know* reading. It may seem impossible we haven't read them all, but unfortunately this is the case more often than not.

As a matter of fact, a book recently turned up in this office that has made for some interesting reading. This document proved to be such an excellent piece of literature it is recommended that it be included in your pilot's library, along with AFM 51-37, AIM, FARS, etc. The material could even prove to be the ultimate link that will provide you with the perfect combination of knowledge and insights into the "nuts and bolts" world of instrument flight rules. This valuable book is called ***Air Traffic Control,*** (7110.65c.) By the way, if you're wondering why it's called 7110.65c, that's because 7110.65b, same subject, was cancelled in January 1980. Nice to know or need to know information? Well, it depends.

However, having in our possession the most current issue always helps — right?

What's in this book that makes it such good reading for pilots . . . let's see. 7110.65c prescribes air traffic control **procedures** and **phraseology** for use by personnel providing air traffic control services. Controllers are required to be **familiar** with the provisions of this handbook and exercise their **best judgment** if they encounter situations not covered by this document. The two statements you just read may be the most important part of this article. What does "familiar" and "best judgment" mean to you? It should mean if things don't run smoothly inflight, we had better have a solid plan of attack for any situation that may arise. Let's look at a few select sections of this book to better understand "the other side of the coin."

Paragraph 29 has some eye catching information that goes something like this. EXPEDITIOUS COMPLIANCE — use the word "immediately" only when expeditious compliance is required to avoid an imminent situation. Use the word "expedite" only when prompt compliance is required to avoid the development of an imminent situation. In either case, the controller will state the reason for the required action if time permits. What is so difficult about complying with those instructions? Well, think for a moment. Do you think the difference between "immediately" for imminent situations and "expedite" for avoidance of the development of an imminent situation is easily remembered? After all, it's a fine line that separates the two. Case in point . . . if in doubt as to why, this is not when we query. Not at this time anyway. It doesn't matter the reason we have been requested to maneuver but the fact is we need to execute the maneuver **now!** "Query" denotes an action that is very useful to pilots in many situations but not here. The correct procedure is to ask "how fast" only after we've started a healthy rate of turn, climb, descent, etc. After all, how clearly do we think, talk, or react in an imminent situation?

YESSIREE, BOBTAIL! THAT MAKES SUM CENTS!

Paragraph 383. MILITARY TURBOJET EN ROUTE DESCENT. You're right. We haven't heard about that maneuver for a while. In fact, it has been removed from FLIP, AIM, etc., but it's in 7110.65c. Now whether or not the term or maneuver "Turbojet En Route Descent" is still valid is not the issue. The issue is, given a clearance including such instructions, do we have adequate knowledge to comply? The controller, to avoid aircraft flying at a low altitude for an excessive distance, may direct a turbojet en route descent at a point determined by adding 10 to the first two digits of the flight level. Example — for FL 370, 37 + 10 = 47 miles. (Turbojet en route descents are based on a rate of descent of 4,000 to 6,000 feet per minute). Now given clearance for or required to execute a "Turbojet En Route" you can accept the challenge and execute the descent properly.

Paragraph 1010, LANDING INFORMATION, contains the answer to a question that is often asked the 1CEVG Instrument Division. When you tell a controller that "you have the numbers," what data will be omitted from the initial landing information? Well, the controller will provide current landing information, as appropriate, to landing aircraft. Landing information contained in the ATIS broadcast may be omitted if the pilot states the appropriate ATIS code. Runway, wind, and altimeter may be omitted if a pilot uses the phrase "have numbers." Pilot use of "have numbers" does not indicate receipt of the ATIS broadcast. In an effort to reduce radio communications, letting the controller know what information we have is an excellent idea. However, unless we employ proper procedures/terminology, all is for naught. By the way, this section of the manual includes the "WHEELS DOWN CHECK," paragraph 1013. It says the controller will remind USAF aircraft to check wheels down when reaching an appropriate position in the pattern unless the pilot has previously reported wheels down. The intent is solely to **remind** the pilot to lower the wheels-not to place the responsibility on the controller. A nice reminder, but certainly not a "cure all."

We've just looked at a very small portion of information contained in 7110.65c. Everything from fuel dumping, providing emergency assistance, to VFR holding is in this manual. No, we're not responsible for memorizing the information therein, nor are we responsible for controller actions. However, as professional pilots it behooves us to possess as much knowledge relative to the safe, efficient operation of our aircraft as possible. In the case of 7110.65c, a review of this document will give us a better idea of how to plan and anticipate our actions both on the ground and inflight. Think of it this way: Let's say the average passing score on all USAF/SAC Instrument Examinations was 95% last year. During this period, controllers scored an average of about the same on their recurring tests. That tells us there is an approximate 5% void of knowledge somewhere and that void must be filled. For us, another review of our books and a look at "the other side of the coin" would be a good place to start.

PROFESSIONAL

MISSILE MAINTENANCE

Sgt Eddie E. Edmond, Jr., 351st SMW, is the SAC ICBM Maintenance Airman of the Month. Sgt Edmond, assigned to the facility maintenance team/periodic maintenance team training section of the wing's team training branch, instructs maintenance and troubleshooting of the Minuteman power and environmental control systems. His three-year evaluation record includes three highly qualified, 21 qualified, and no unqualified ratings. The nine teams he has trained over the last two years have achieved 47 highly qualified.

Sgt Edmond constantly searches for methods to enhance the training programs. Several of his recommended technical order changes have been approved and incorporated, primarily deleting duplication of power system inspection requirements which resulted in a significant savings of manhours and resource costs.

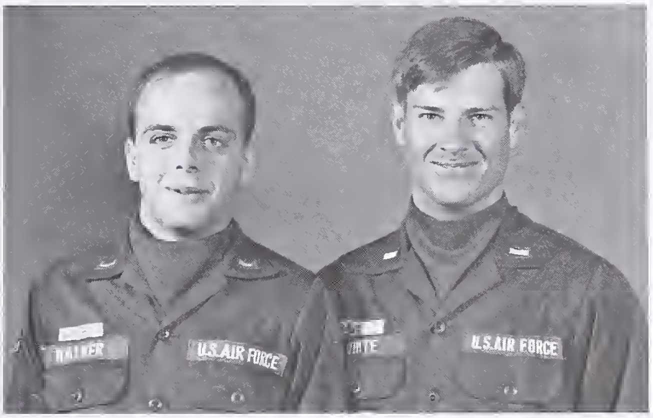
FLYING CREW

Lt Col Jack Wiley III, IP; Capt Mike Reese, P; 1Lt Phil Mente, CP; Capt Dave Jareo, IRN; and 1Lt Mike Kim, N, Crew R-12, 43d SW, were returning to base from a B-52D training sortie. During an enroute descent from 20,000 feet to 15,000 feet, the pilot (sitting in the copilot's seat) noticed a slight lateral control abnormality and assumed that the IP caused it. The crew entered holding for an approach to 24R, with a circle to land 06L. During the rollout from the 30 degree right bank turn, at an altitude of 2,300 feet AGL, Capt Reese experienced severe lateral control binding. He notified the crew of the problem, whereupon Lt Col Wiley took control of the aircraft; he also encountered severe lateral control problems. Lt Col Wiley maintained control of the aircraft using the limited lateral control available and rudder. He initiated a climb to 10,000 feet, coordinating with the crew the notification of ATC and command post, and initiated the emergency checklists. Because of IMC conditions at 10,000 feet, climb was continued to FL 200, where a controllability check indicated lateral binding after displacement of the yoke approximately three-fourths to one inch. This includes the air refueling and low level modes of the autopilot. The hard autopilot function of the autopilot was engaged and approximately two hours after the first indications of the control problem, the crew regained lateral control up to 30 degrees left and 20 degrees right control wheel deflection before binding recurred. This additional lateral control was gained by continuously rocking the aircraft. At this time, Lt. Col Wiley, with Boeing concurrence, decided to land after external fuel was transferred to the mid and aft body tanks. A long straight-in approach to 06R for a night landing was initiated, using rudder as the primary directional control input. After touchdown, severe lateral control binding was again encountered, and to level the wings, Lt Col Wiley forced 20 degrees left yoke displacement at which time the control wheel froze. Runway centerline was maintained using rudder steering and brakes to a safe, full stop.

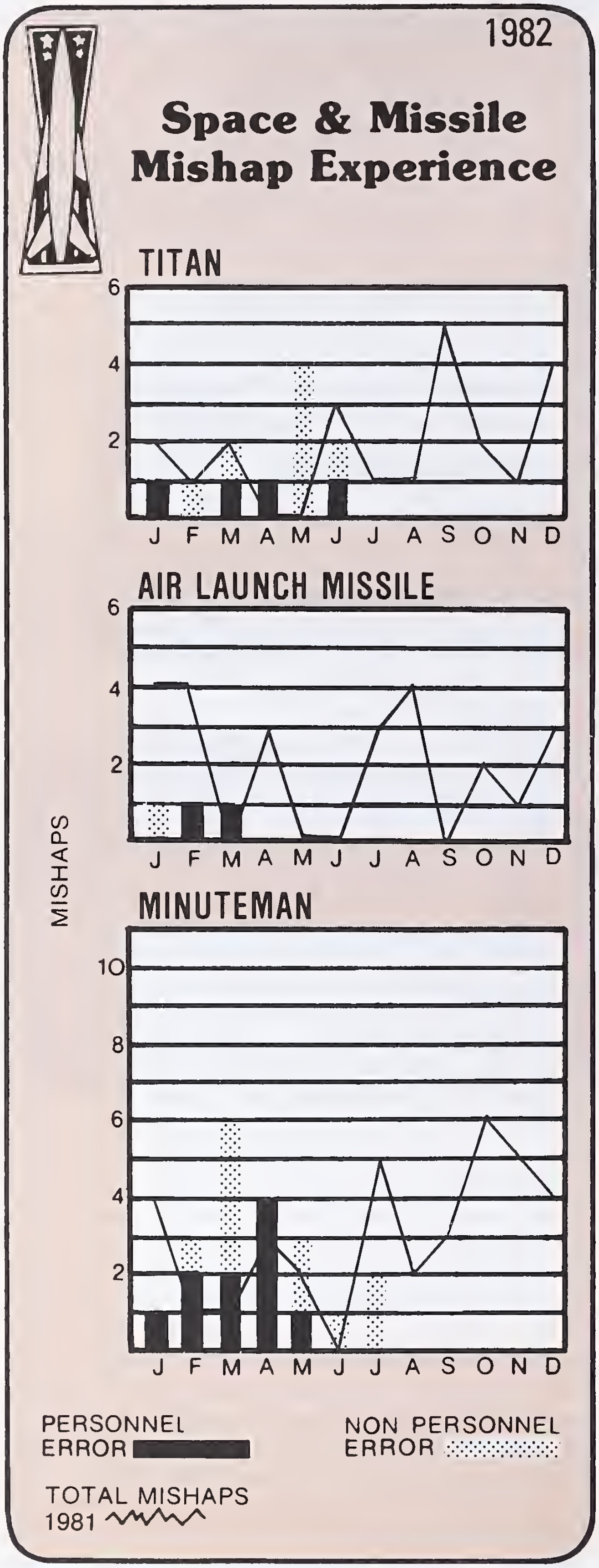
MAINTENANCE

SSgt Rich E. Corum, 28th BMW, Ellsworth AFB, is SAC Maintenance Airman of the Month. Sgt Corum demonstrated exceptional technical ability, leadership and initiative in his duties as a KC-135A aircraft crew chief. He was highly instrumental in successful mission accomplishment during a recent European Tanker Task Force deployment to RAF Mildenhall. Sgt Corum spent many hours of off duty time repairing minor discrepancies on his aircraft, which if not corrected could have resulted in major delays. His efforts paid off as his aircraft made all takeoffs on time with no aborted missions. Because of Sgt Corum's excellent record, his aircraft was selected as backup to fly the U. S. Ambassador from Spain to the United States. On deployment to Andersen AFB Sgt Corum was selected as the primary engine run person for the entire task force due to the shortage of personnel. He was called upon any time, night or day, to accomplish engine runs and other necessary tasks. Sgt Corum has been highly praised for his dedication and professionalism by flight crews and maintenance and operational managers at all levels. Letters of appreciation awarded to him for his outstanding achievements are indicative of a truly dedicated airman and mark him as a highly professional NCO. He is a valuable asset to the SAC maintenance effort and the United States Air Force.

MISSILE CREW



The 351st SMW, Whiteman AFB Crew R-152, 1Lt Brian White, MCCC, and 2Lt Tom Walker, DMCCC, is SAC Missile Crew of the Month. Crew R-152, accompanied by alarm response team members, were returning to base from alert duty at a launch control facility. Upon rounding a sharp curve on the highway, the crew encountered an extremely serious accident; a vehicle had just spun off the road and overturned several times. The driver of the accident vehicle penetrated the windshield, the vehicle was leaking gasoline, and parts of the automobile were strewn over the road. Lt Walker, a qualified emergency medical technician, immediately began attending to the severely injured driver. Meanwhile, the ART members established a cordon around the potentially explosive vehicle to preclude further injuries from fire or explosion. The crew directed the ART members to establish traffic control points using roadside flares to slow approaching traffic and guide it safely around the accident site. Lt Walker treated the accident victim to slow profuse blood loss from head wounds and numerous lacerations by applying direct pressure to the worst injury on the side of the victim's head. He also immobilized the victim's neck to prevent possible damage from neck or spine injury. After ensuring the situation was under control, Lt White drove to a nearby town to summon an ambulance and the highway patrol to the accident scene. Crew R-152's swift and timely action in this emergency situation is commendable.



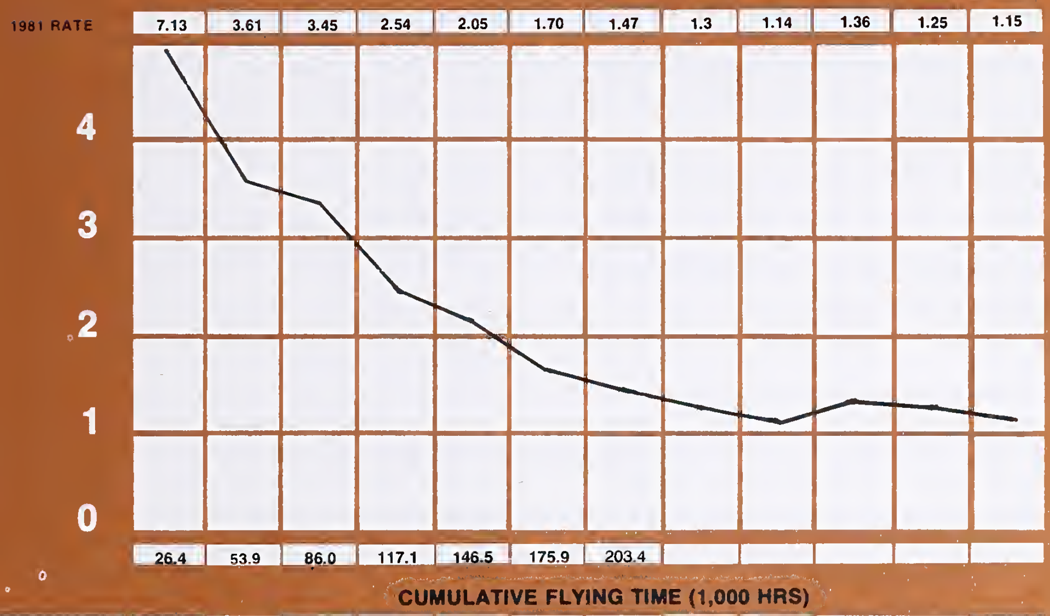
SAC SAFETY OFFICER

1Lt Sally B. Smith, 2 FMS Safety Officer, Barksdale AFB, is SAC Safety Officer of the Month. While initially assigned as 2 OMS Unit Safety Officer in April 1980, her aggressiviness and positive attitude soon became evident. Lt Smith's inspections and follow-ups were thorough, in-depth, and accomplished immediately. Her efforts resulted in few, if any, minor discrepancies being noted in recurring inspections. She actively promoted safety through the publicity program she initiated and her mishap prevention program achieved an enviable record.

In January 1982, Lt Smith was reassigned to FMS. Because of her expertise in ground safety and her outstanding safety record, she was assigned the additional duty of safety officer. Her dedication and professionalism have already become apparent; during the last SAC ORI/MEI, Lt Smith's safety program was inspected and no discrepancies were noted. Lt Smith's exceptional ability and devotion to duty are a credit to SAC and the United States Air Force.

1982 Flying Safety Rate

SAC CLASS A MISHAP RATE (PER 100,000 FLYING HRS)



MISHAPS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1981	2	0	1	0	0	0	0	0	0	1	0	0
1982	0	0	0	0	0	0	0					

MISHAP STATUS

+KC-135A	MAR 82
+KC-135A	MAR 82

LEGEND ∧ = 1981 RATE (SAC)
+ = ANG
– = AFRES

Farewell Farrell

THIS WHITE SPACE IS FOR YOU, GAIL!

If you noticed something a bit odd concerning the personnel listed under STAFF on our masthead, you're not really that observant. A radical change has taken place. For the first time in 260 issues of Combat Crew, the name of G. Francis Farrell is not listed in the space under Associate Editor.

Yes, "Gail" as he's known to his many friends, has officially retired. He's gone, not to greener pastures, perhaps, but to the sunny skies of the American Southwest.

Although Gail claims it was "a cold and stormy night" when he came to work for Combat Crew, it isn't true. A hot and muggy July day in 1960 would be closer to the truth.

Gail couldn't foresee at that time, of course, that SAC Headquarters would be his home for the next 22 years. "I fully expected to stay here only a few years at the most," he states. "I'd never been to a headquarters before."

Nothing in Gail's career up until that fateful day in July 1960 portended a different conclusion. Growing up in Manhattan, Kansas, Gail entered the Army Air Corps in July 1943 as an aviation cadet. Basic training was endured in the hotels of Miami Beach and after a short stay with a college training detachment at St. Vincent's College in Latrobe, Penn., Gail found steady work as the tail gunner on a B-17.

Kimbolten Field in England was a busy place when Gail arrived in early February of 1944. Assigned to the 379th BMW (now stationed at Wurtsmith AFB) Gail survived 21 missions over the flak-laden skies of Germany. Newly-promoted SSgt Farrell was awarded the Air Medal with three clusters for his participation in the bombing strikes against Berlin, Schweinfurt, and other Axis targets.

Shortly after V-E day, Gail mustered out of the service, married, and returned to Manhattan to attend Kansas State University on the GI Bill. After graduation from the School of Journalism in 1950, Gail worked for a small weekly newspaper until his recall into the recently-created Air Force as a 2Lt in 1951. The Korean conflict was raging and after a stint as Public Information Officer at Biggs AFB, Texas, under future CINCSAC, Gen (ret) John Ryan, 2Lt Farrell was transferred into the brand new Air Force Psychological Warfare Program. Studies at Georgetown University and Ft. Riley, Kansas, followed and Gail was eventually assigned to Mountain Home AFB, Idaho, where three Pyschological Warfare Wings were formed.

Gail departed the Armed Services (again) in February 1953 as a First Lieutenant."Boiling" as a Border Patrol agent in Texas for a year convinced Gail that journalism work was more his forte. He latched on with the Air Force Public Affairs Office again but this time Gail came aboard as a civilian. Short stints at the Topeka Air Force Depot and Brooklee AFB followed.

For a change of pace, Gail worked at McConnell AFB helping to write and edit B-47 training manuals when he was approached about taking the job of associate editor of Combat Crew. The eternal vagabond accepted, believing that SAC Headquarters would be just another rest stop on his weary travels.

Obviously, it didn't quite turn out that way. Gail has seen at least 10 Combat Crew editors come and go. One of the biggest changes in the content of the magazine Gail has witnessed over the years is the addition of ICBM coverage. However, as he notes, "The weapons systems change, but the message of safety remains the same."

During his long association with the Air Force, Gail has been associated with many aircraft, starting with WWII's legendary B-17 and continuing with SAC's strategic bombers, the B-29, B-36, B-47, B-50, B-58, and the ever-present B-52. He also covered the rollout of the B-1 bomber in 1974.

What does one say, finally, about an institution like Gail? That it has withstood the test of time? This Gail surely has done, but it's not nearly sufficient. His expertise, along with his ever-present wit, will be sorely missed. Perhaps the best accolade is the simplest and the most heartfelt: Combat Crew and SAC will miss you, Gail. Thanks for a job well done.

Gail Farrell receives a plaque commemorating 22 years of service as Combat Crew associate editor from former editor Capt Ross Phillippe.

SAC
SAFETY SCREEN

91 AREFS, McConnell Crew R-110: P Maj Jerry D Fagan, CP 1Lt Roger D Johnson, N Maj Norman L Stanley, BO SSgt Willie A Bright

384 AREFS, McConnell Crew E-158: P Capt Thomas S Johnstone, CP 1Lt James H Grigsby, Jr, N 1Lt Michael C Waldrip, BO TSgt John Gordon, Jr

528 BMS, Plattsburgh Crew E-05: P Maj Michael A Abair, RN Capt Kurt J Klingenberger

529 BMS, Plattsburgh Crew N-58: P Capt Stephen P Luebbert, RN Capt Michael J Stephenson

11 AREFS, Altus Crew E-113: P Capt Wayne G Terry, CP Capt James A Newmeister, N Lt Ruben H Johnson, Jr, BO SSgt Michael E Bauer

7 AREFS, Carswell, Crew E-112: P Capt Ernest Sorola, CP 1Lt Dorian W Smith, N Capt Ronald Stewart, BO Sgt Charles P Horne

9 BMS, Carswell Crew E-72: P Capt Mark W Baker, CP 1Lt Byron D Woods, RN Capt Danny S Wilmoth, N 1Lt James C Pustay, EWO Capt John S Sakai, G SrA Kevin D Hershey

19 BMW, Robins Crew E-20: FP Capt Robert L Keeney, CP 2Lt Duane G Davis, NB Maj Alan B Kirby, IN Capt Michael D Hagen, IE Capt Joseph E Jordan, AG SSgt John R Cate

19 BMW, Robins Crew E-111: FP Capt Michael P Miller, CP 1Lt Don A Keener, NN Capt Michael W Cole, BO SSgt Lance M Hornbuckle

43 SW, Andersen Crew E-31: P Capt Michael Fay, CP Capt Philip Manning, RN 1Lt Col Jay Abels, N 1Lt George Sandor, EW 1Lt Norman Edwards, G TSgt Howard Baynes

43 SW, Andersen Crew R-12: P Capt Michael Reese, CP 1Lt Phillip Mente, RN Capt David Romer, N 1Lt Michael Kim, EW 2Lt Randall McCarter, G Amn Douglas Lunsford

319 BMW, Grand Forks Crew E-10: P Capt Charles B Wolden, CP 1Lt Gary M Kopacka, RN Maj William R Poff, RN Maj David A Dick, N 1Lt Craig S Morris, EWO Capt Stephen G Peters, G Sgt Donald E Leake

319 BMW, Grand Forks Crew E-123: P Capt John H Seader, CP 1Lt Norman C Robinson III, NN 2Lt David K Anderson, IBO TSgt Harold E Hamilton, BO Sgt Jeffrey S Harp

134 AREFG, McGhee Tyson (TNANG): P Maj Anthony N Wylie, P Maj Julius V Przygocki, N Maj William C Goolsby, IBO MSgt John E Miller, IBO SSgt Kelvin H Kuwik

20 BMS, Carswell Crew E-13: P Capt Harry L Latham, CP 1Lt Matthew V Beecher, RN Capt David M Barcus, N 1Lt Steven D Watkins, EWO 1Lt Mark F Wilmes, G SSgt Elvis K Logan

4018 CCTS, Carswell IT-1: IP Maj David H Roche, IRN Capt John O Mullenax, IEWO Capt Gerald W Epperson, IG TSgt David T Blake

62 BMS, Barksdale Crew E-10: P Capt Robert M Rush, CP 1Lt Richard G Archambualt, RN Capt William D Barker, N 2Lt Charles B Simpson, EWO 1Lt David F Hawkinson, AG Sgt Gary A Plain

596 BMS, Barksdale Crew S-52: P Capt Charles E Williams III, CP Capt Michael P Sullivan, RN Capt Phil L Pearce, N Capt Robert M Cochran, EWO Capt Paul Williams, G SSgt David C Donatto

71 AREFS, Barksdale Crew R-136: P Maj Jeffrey A Hewitt, CP Capt Mickey D Young, N 1Lt Joel R Sedgwick, BO SSgt Gene W Brantley

32 AREFS, Barksdale KC-10 Crew: P Capt Archer A Watkins, CP Capt Ronald D Jones, FE MSgt Gary D Lang, BO SSgt Jacob R Benscoter Jr

308 SMW, Little Rock Crew R-105: MCCC 1Lt Mark A Goff, DMCCC 2Lt Linda L Eaton, MSAT SrA Joseph J Brandemuehl, MFT A1C William H Jenison

90 SMW, F E Warren Crew E-005A: MCCC 1Lt Robert J Hubiak, DMCCC 2Lt Stephen D Prager

390 SMW, Davis-Monthan Crew R-131: MCCC Capt Kurt A Ramstine, DMCCC 2Lt Dale A Million, MSAT A1C Diana K Allen, MFT Amn Kent L Vian

The SAC Safety Screen is an honor roll of SAC's most professional crews. To gain listing on the Screen, crew members must be nominated by their unit commanders and meet high selection criteria of experience in their aircraft or missile system *IAW AFR 127-2/SS1.*

UNIVERSITY OF FLORIDA
3 1262 09683 6308

B-52 operations in . . .

FLARE

BRIGHT STAR